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EXAMINER	
AUGHENBAUGH, WALTER	
ART UNIT	**PAPER NUMBER**
1772	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

#2

Office Action Summary	**Application No.** 10/680,093	**Applicant(s)** GUIDI, GIANMARIA	
	Examiner Walter B. Aughenbaugh	**Art Unit** 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on ____.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.
  4a) Of the above claim(s) ____ is/are withdrawn from consideration.
5)☐ Claim(s) ____ is/are allowed.
6)☒ Claim(s) *1-23* is/are rejected.
7)☐ Claim(s) ____ is/are objected to.
8)☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on ____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. ____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date *02/12/04*.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. ____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract should not use legal phraseology such as "comprising". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 13 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 1, the scope of the structures intended to be delineated by the recitation "sheet-like" cannot be ascertained.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the structural relationship between the forming mold and the tubular element in the final product.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the structural relationships between the tensioning jaw and the tubular element and between the tensioning jaw and the coupling elements : by what structure do the coupling elements "engage" the tensioning jaw (wouldn't a jaw be engaging something, as opposed to being engaged?), and does the lining "ha[ve]" the jaw, or does the tubular element "compris[e]" the jaw? Furthermore, the structure intended to be recited by "in order to position said lining so as to adhere to said central core" cannot be ascertained.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6-13 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hammer.

In regard to claim 1, Hammer teaches a tubular element (item 1, Fig. 1) for forming pipes for sewage systems (col. 2, lines 38-42) including a tubular body provided with connection means (plastic ring, item 7) for connection to the tubular body of laterally adjacent tubular element (item 2, Fig. 1) (col. 3, lines 49-60). Hammer teaches that the tubular element includes a lining provided on the internal surface of the tubular body where the lining comprises a sheet-like element with an internal reinforcement frame (item 5, Fig. 1) and a layer of self-sealing thermoplastic polymer (item 4, Fig. 1) that forms the internal surface of the tubular element (Fig. 1) and that is connected to the frame (col. 2, lines 38-47). Hammer teaches that the tubular element includes an engagement means (projections, item 6, Fig. 1, col. 2, lines 45-47).

In regard to claim 2, Hammer teaches a tubular element (item 1, Fig. 1) for forming pipes for sewage systems (col. 2, lines 38-42) including a tubular body provided with connection means (plastic ring, item 7) for connection to the tubular body of laterally adjacent tubular elements (col. 3, lines 49-60). Hammer teaches that the tubular element includes a lining Iitem 4, Fig.1) provided on the internal surface of the tubular body where the lining forms a continuous duct that is monolithically associated with the internal surface of the tubular body (col. 2, lines 42-47 and col. 4, lines 1-11).

In regard to claim 3, Hammer teaches that the internal reinforcement frame, item 5, comprises a net made of synthetic fibers (col. 4, lines 50-55, col. 3, lines 10-17, col. 2, lines 45-47 and col. 1, lines 8-11). In regard to claim 4, Hammer teaches that the internal reinforcement frame, item 5, is a layer of fabric (col. 2, lines 45-47). In regard to claim 6, Hammer teaches that the layer of self-sealing thermoplastic polymer is constituted by a plurality of overlapped layers of thermoplastic materials that are chemically compatible (col. 4, lines 37-41, the layers are chemically compatible since Hammer teaches that the layers are attached firmly to each other).

In regard to claim 7, Hammer teaches that the projections, item 6, are provided on a surface of the lining that lies opposite the surface of the lining that is in contact with the layer of self-sealing thermoplastic polymer, item 4 (Fig. 1). In regard to claim 8, Hammer teaches that the projections, item 6 (which correspond to the spikes as claimed), protrude from the face of the layer of fabric, item 5, that is opposite the face of the layer of fabric that is in contact with the polymer layer, item 4 (Fig. 1). In regard to claim 9, Hammer teaches that the spikes (projections, item 6) are connected to the reinforcement frame (item 5, Fig. 1 and col. 2, lines 45-47). In regard to claim 10, Hammer teaches that the spikes (projections, item 6) are an integral part of the reinforcement frame (item 5, Fig. 1 and col. 2, lines 45-47). In regard to claim 11, Hammer teaches that the projections, item 6, are connected (therefore, connectable to) to the reinforcement frame, item 5, of the tubular element (which is a concrete cast, col. 2, lines 45-47 and col. 1, lines 8-11). In regard to claim 12, the surface of the projections, item 6, is rough because the projections have a modulus of elasticity that is preferably four to ten times higher than that of the sheet, item 4 (col. 3, lines 10-17). In regard to claim 13, claim 13 has not been given patentable weight since the mold and the interface sheet as recited appear to be components of the apparatus used to form the tubular element and therefore cannot be given patentable weight in examination of article claim 13 since the structure of the apparatus used to form an article is not germane to the patentability of the article itself in the absence of unexpected results.

In regard to claim 18, Hammer teaches that the lining has a portion that protrudes (covering strip, item 10) with respect to the cast that constitutes the tubular body where the protruding portion provides connection, without discontinuities, to a protruding portion of the lining of a laterally adjacent tubular element (col. 4, lines 1-11).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer in view of Glover.

Hammer teaches the tubular element as discussed above. Hammer teaches that the thermoplastic polymer is polyethylene or polypropylene (both polyolefins, col. 2, lines 42-45).

Hammer fails to teach that the polyolefin is modified with acid groups.

Glover, however, disclose a weldable plastic composition for use in sewer pipe reconditioning where ethylene/acrylic acid copolymer is a suitable material for the weldable plastic composition (col. 1, lines 10-23, col. 1, line 67-col. 2, line 3 and col. 2, lines 15-29). Therefore, one of ordinary skill in the art would have recognized to have used the ethylene/acrylic acid copolymer as the polyethylene of Hammer since ethylene/acrylic acid copolymer is a well known material for use a weldable, sewer pipe reconditioning material as taught by Glover.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the ethylene/acrylic acid copolymer as the polyethylene of Hammer since ethylene/acrylic acid copolymer is a well known material for use a weldable, sewer pipe reconditioning material as taught by Glover.

8. Claims 14-17 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer in view of Ohnstad.

Hammer teaches the tubular element as discussed above.

In regard to claims 14 and 17, Hammer fails to teach that the tubular element comprises a heating means integrated with the layer of the self-sealing thermoplastic polymer. Ohnstad, however, discloses a pipe element joining system (col. 1, lines 44-53) comprising heating means (heater elements, items 22 and 24) integrated within the plastic liner of the pipe element (col. 2, lines 33-42). Ohnstad disclose that the heater elements heat a welding strip, item 21, thus forming a continuous plastic barrier at a gap in the liners of adjacent pipe elements (col. 2, lines 51-66). Therefore, one of ordinary skill in the art would have recognized to have included the heater elements taught by Ohnstad in the tubular element of Hammer in order to form a continuous plastic barrier at a gap in the liners of adjacent pipe elements via the heater elements as taught by Ohnstad.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have recognized to have included the heater elements taught by Ohnstad in the tubular element of Hammer in order to form a continuous plastic barrier at a gap in the liners of adjacent pipe elements via the heater elements as taught by Ohnstad.

In regard to claim 15, Hammer fails to teach that the tubular element comprises a self-sealing gasket that is usable to join laterally adjacent flaps of the polymer layer. Ohnstad, however, discloses that the flaps of adjacent pipe elements are joined by a gasket, item 14, and a gasket is a convention means of joining pipe sections (col. 2, lines 33-37). Therefore, one of ordinary skill in the art would have recognized to have used a gasket to join the adjacent pipe sections of the tubular element of Hammer since a gasket is a convention means of joining pipe sections as taught by Ohnstad.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a gasket to join the adjacent pipe sections of the tubular element of Hammer since a gasket is a convention means of joining pipe sections as taught by Ohnstad.

In regard to claim 16, since the gasket joins two adjacent pipe elements, and since Ohnstad teaches that the adjacent pipe elements are fused together (col. 1, lines 29-31), the gasket necessarily comprises a heat diffusion layer (where the entire gasket is considered to be a layer) and the material of the gasket is necessarily of the adhesive or non-stick type since sealable materials are either adhesive materials or non-stick type materials.

In regard to claim 19, Hammer fails to teach a spacing element that is adapted to allow localized melting with uniform distribution of the polymer and an inner gasket band that is arrangable on an internal surface of the lining by way of the spacing element. The heater elements 22 and 24 of Ohnstad discussed above read on the claimed spacing element. Ohnstad also teaches a gasket band, item 14, that is arrangable on an internal surface of the lining by way of the spacing element (col. 2, lines 33-40, gasket band, item 14, Fig. 3, that is arrangable on an internal surface of the lining by way of the spacing element in that the two pipe elements are bonded together by way of the spacing element, thus the gasket band is arranged on an internal surface of the lining as a result of the bonding of the two pipe elements via the heater elements).

In regard to claim 20, the welding strip, item 21, of Ohnstad corresponds to the repair lining as claimed, and the heater elements of Ohnstad correspond to the heating means as claimed. In regard to claim 21, Ohnstad teaches that the heater elements have power supply cables that protrude outside for connection to a source of electric power (item 120, Fig. 1, col. 4, lines 56-59). In regard to claim 22, Ohnstad teaches that the power supply cables, item 120, pass through the tubular body (Fig. 1). In regard to claim 23, the tubular element taught by Hammer and Ohnstad comprises a central core which acts as a containment element (because tubular elements by definition comprise a central core, and a pipe for sewage systems (col. 2, lines 38-42 of Hammer acts as a containment element). The projections, item 6, of Hammer correspond to the claimed coupling elements.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/03/05 WBA

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1772

10/3/05